



2017 Green Tier Annual Report for U.S. Silica Company

Executive Summary

U.S. Silica Company (U.S. Silica) is a silica sand mining and processing company that provides processed silica sand products to the oil and gas industry, as well as for general industry use in areas such as glass manufacturing, foundries, golf courses, volleyball and filtration applications. U.S. Silica is a publicly traded company that employs more than 1,000 people nationally - at its headquarters offices in Frederick, Maryland and Chicago, Illinois, and at its manufacturing facilities across the country. The U.S. Silica facility located in Sparta, Wisconsin was formally accepted into the Wisconsin Green Tier program on July 31, 2013 as a Tier 1 participant.

U.S. Silica has committed to being an environmentally responsible business and an active participant and partner within our host communities.

EMS Audit Report

In March 2017, U.S. Silica performed an internal audit of the Environmental Management System in place at its Sparta, Wisconsin facility. The audit indicated that the facility was found to be operating in accordance with the requirements found in 299.83(dg). No major non-conformances were identified during the audit. One improvement area noted was that while plant management personnel were aware and participating in the Green Tier continuous improvement activities, the awareness level of site personnel to Green Tier should be raised. U.S. Silica finds its EMS meets the "Functional Equivalency" criteria and the continual improvement requirements of the Green Tier Program.

In addition, Foth Environment and Infrastructure (Foth) performed a third-party audit of the Environmental Management System in September 2017. The Foth audit resulted in several observations and one minor finding (the finding due to a lack of management review documentation prior to 2017). The finding was corrected following the performance of the audit.

Description of Progress

Goal 1: Energy Use Reduction (kWh/ton)

Progress: Bypass circuits were installed on all Wet Plant process lines to reduce or eliminate the use of high-demand equipment in that process. Lines were operated without attrition scrubbing in 2017, contributing to the overall kWh/ton savings noted in the Environmental Performance section below. In addition, options were investigated to control power usage at the Rail Loadout and in the office building.

Goal 2: Natural Gas Use Reduction (MMBTU/ton)

Progress: Options were investigated to reduce natural gas used for heating in office buildings.

Goal 3: Water Use Reduction (MGD)



Progress: Options for enhancing the return of dredge water directly to the drainage system and/or dredge pond (to minimize infiltration) were investigated. The dredge screen dewatering discharge pipe was moved 300 feet downstream to directly discharge water into the dredge pond to minimize infiltration.

Goal 4: Silica Dust Exposure Reduction

Progress: Due to the impending reduction in the respirable silica permissible exposure limit (PEL), the Sparta facility has focused strongly on reducing personnel dust exposure. Management controls were used to keep employees out of areas with measured silica levels at 80% of the PEL or greater. Dust collection fans were also sped up to increase intake rates at transfer points in the sizing building. Filters were changed when pressure drops across them elevated.

Environmental Performance

U.S. Silica continued a strong focus on environmental performance and sustainability in calendar year 2017. A summary of facility environmental performance is below, summarized by environmental aspect:

Energy

The Sparta facility performed extremely well in regard to energy efficiency in 2017. Due to higher production amounts and the nature of operation, natural gas use per ton was higher than in the previous year, while electrical use per ton dropped considerably.

Energy Use	2013	2014	2015	2016	2017	Reduction (%)
kWh/ton	14.17	10.6	9.6	11.6	7.11	38.7
MMBTU/ton	0.18	0.16	0.136	0.146	0.166	(13.7)

Waste

In 2017, plant operations 24/7 and generated approximately 87 tons of municipal solid waste (up from 37 tons in 2016), and approximately 11 tons of scrap steel and 4 tons of waste paper/cardboard (compared to 9 tons of scrap steel and 6.5 tons of waste paper/cardboard in 2016).

Water

The Sparta facility continues to utilize recycle loops to reduce the amount of water withdrawn from on-site high-capacity wells and the local municipal treated water supply. As a result, the facility has reduced its water withdrawal by an estimated 85% since its commissioning in 2012. Sparta did not utilize its high-capacity well in 2017.

Transportation

Overall, U.S. Silica seeks to minimize the carbon footprint of its product transportation by shipping its products to customers by the most efficient method. At the Sparta facility, products are only shipped by



rail rather than by less efficient methods like trucking, reducing the amount of fuel used to get sand to market.

Stakeholder Involvement

The U.S. Silica Sparta facility actively partners with local stakeholders to understand how best to serve the community and how best to address any potential issues. The facility holds an annual meeting with the Sparta City Council to discuss facility performance and address stakeholder concerns. In addition, the facility Community Outreach Committee conducts activities designed to give back to the town of Sparta. In 2017, these activities included the following:

- Sparta Community Garden
- Donations:
 - o Sparta Elementary School – new kiln
 - o St. Jude donation
 - o Freedom Honor Flight
 - o Sparta Hockey Fundraiser
 - o HorseSense for Special Riders
 - o K-9 Larz Surgery Funding
 - o Holiday Lights
 - o Christmas- Hartman Family Fire

Future Goals and Objectives

Future goals and objectives include:

- Exploring energy consumption reductions by conducting an energy audit.
- Reducing the amount of waste being landfilled by exploring recycling, reduction and reuse opportunities by conducting an internal waste stream audit.
- Improving wildlife habitat by conducting an invasive species inventory on plant owned property and developing a phased control plan based upon inventory findings.
- Improving food sources for local wildlife and pollinators by ensuring native and pollinator friendly species are utilized in reclamation and incorporating food plots.
- Enhancing bluebird and wood duck nesting opportunities by implementing a bluebird and wood duck maintenance and monitoring program.